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Loudoun 2040 Comprehensive Plan

August 30, 2018 | Planning Commission Special Worksession



Meeting Workflow

- CTP Presentation and Discussion
- Suburban Policy Area
- Transition Policy Area
- Data Center Uses
- Remaining Staff Recommendations



Residential Forecast Land Data

Land used to forecast additional residential units through 2040 does not include:

- Entitled vacant land that could come back in and request higherdensity development based on new Place Types;
- Underdeveloped land in areas currently planned for non-residential uses;
- Redeveloped areas, outside of the hatched areas on the map; and
- Large lot residential areas that do not have an HOA that could request increased densities



Residential Forecast Land Data

Range of Additional Housing Units Needed to Achieve 75% of Demand (2021-2040):

> Low 3,400 Medium 6,900 High 12,200



Suburban Policy Area: Additional Housing

Compact Residential development as an option within all Residential Place Types







Suburban Policy Area: Additional Housing

Allow a certain percentage of Single-Family Attached within all Mixed-Use areas.







Suburban Policy Area: Additional Housing

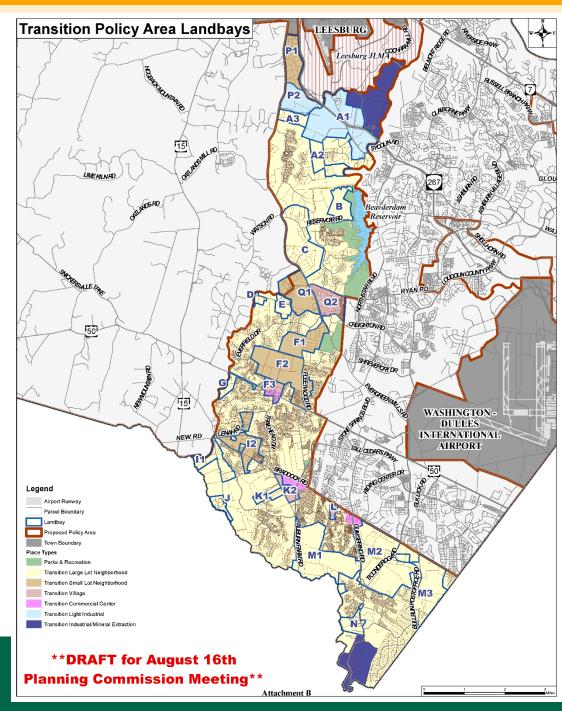
Allow higher density in large lot residential areas that are not connected to central utilities





Transition Policy Area

- Criteria utilized for evaluating potential additional density:
 - Transportation: access to and from planned and/or existing transportation networks
 - 2. Environmental: environmental constraints (streams, floodplain, steep slopes, topography, etc.)
 - 3. Compatibility: compatibility of increased density with existing development
 - 4. Proximity: Location of potential development to supportive land uses (such as schools, parks, and significant commercial shopping areas) generally within 2 miles

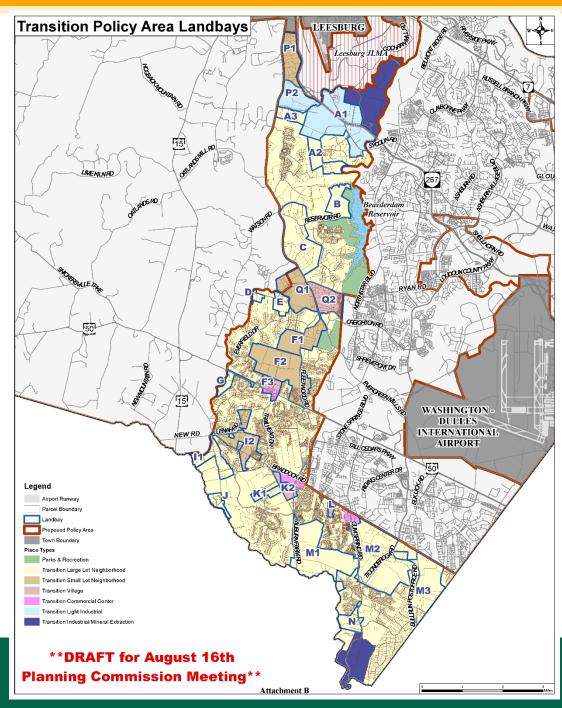




Transition Policy Area

Evaluation Criteria Scoring

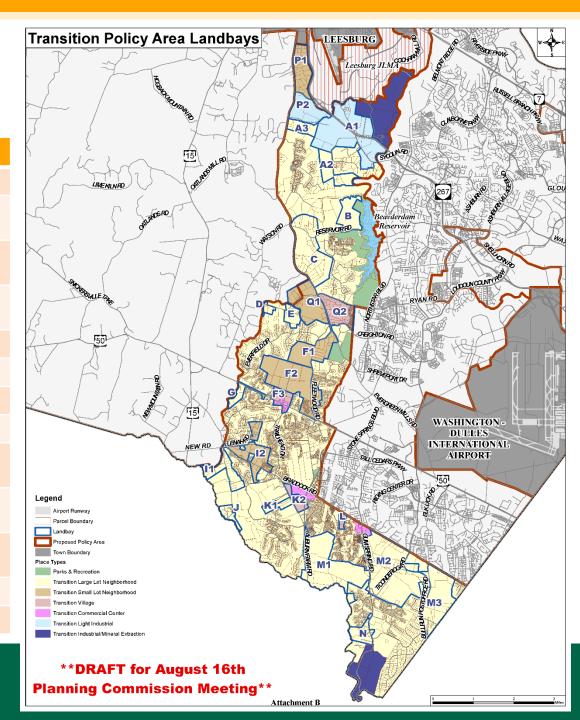
- Transportation:
 - 0 No Plan / No Funding
 - 1 Plan / No Funding
 - 2 Plan / Funding
- Environmental:
 - 0 Significant Constraints
 - 1 Some/Limited Constraints
- Compatibility with Increased Density:
 - 0 Not as Compatible
 - 1 More Compatible
- Proximity to Services:
 - 0 No
 - 1 Yes within 2 miles

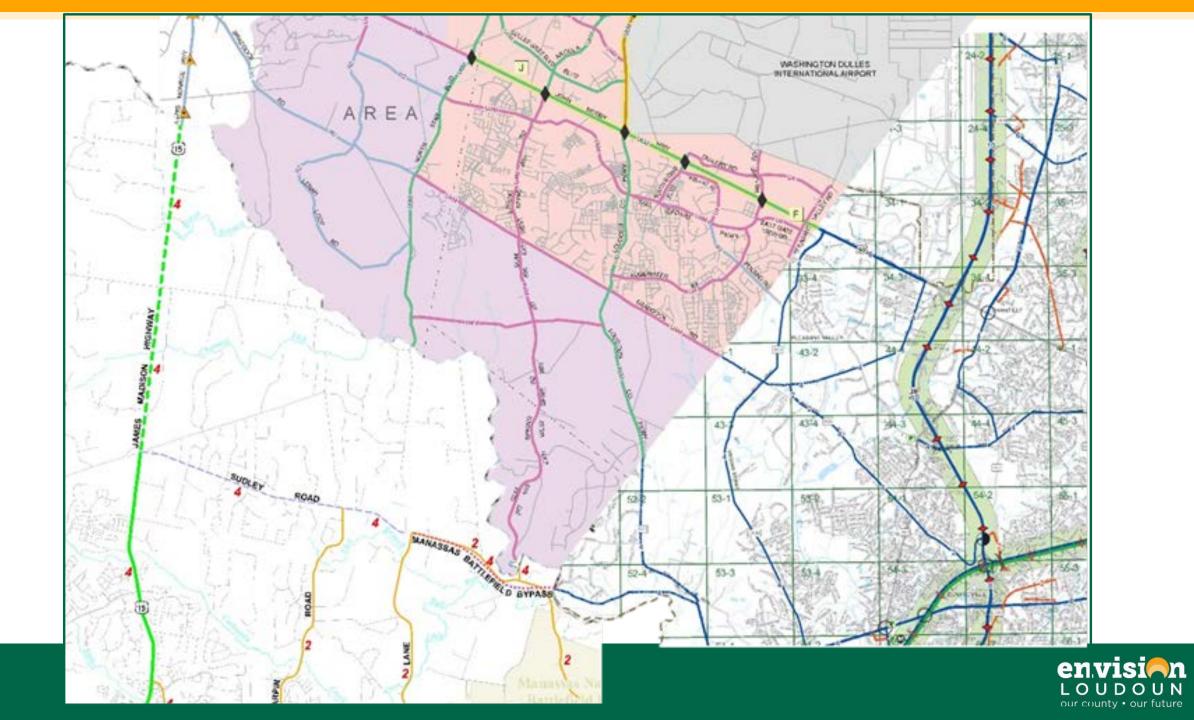




Transition Policy Area

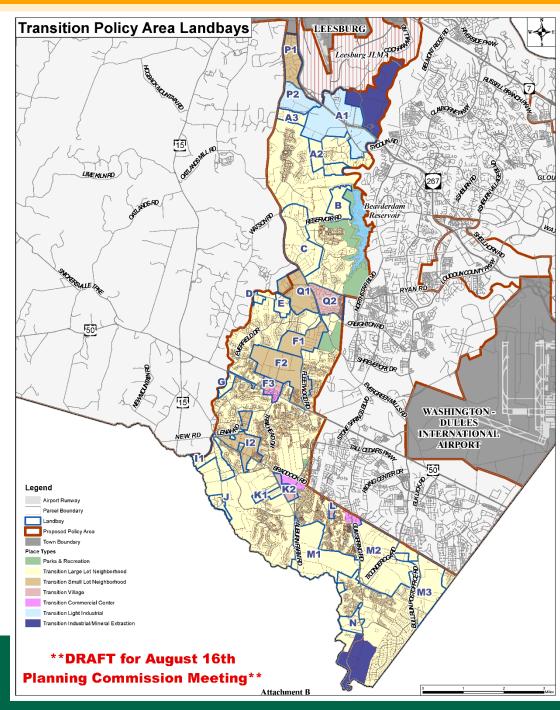
| Land Bay Area Rankings | | | | | | | | | | | | | |
|------------------------|----|----|----|---|----|----|---|----|----|----|----|----|---|
| Criteria | A1 | A2 | А3 | В | С | D | Е | F1 | F2 | F3 | Q1 | Q2 | G |
| Transportati on | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 1 | 1 | 1 | 1 | 0 |
| Environmen tal | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Compatibilit y | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| Proximity | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| Total | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 2 | 4 | 3 | 4 | 1 |
| | | | | | | | | | | | | | |
| Criteria | | 11 | 12 | J | K1 | K2 | L | M1 | M2 | M3 | N | 0 | Р |
| Transportati on | | 0 | 1 | 0 | 0 | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 1 |
| Environmen tal | | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| Compatibilit y | | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Proximity | | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |
| Total | | 1 | 3 | 0 | 1 | 5 | 5 | 4 | 4 | 4 | 2 | 0 | 3 |





Transition Policy Area: Additional Housing Options

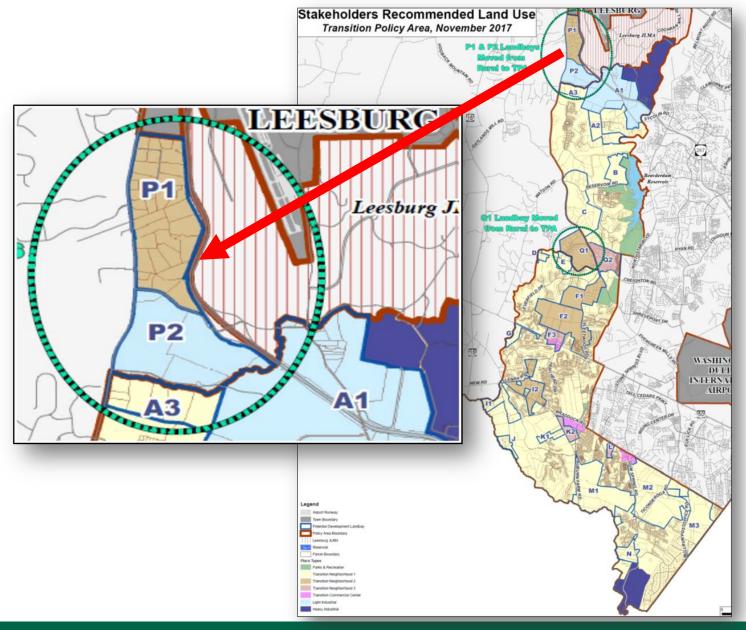
- Increase the density in the TPA Small Lot Residential Place Type
- Map additional areas within the TPA as Small Lot Residential





RPA Land Conversion to TPA

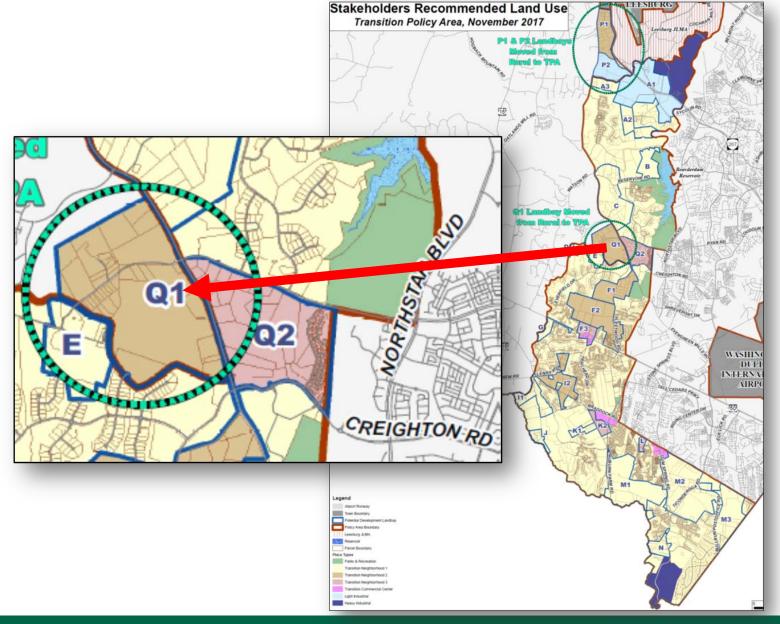
- Land Bay P1/P2
 - Current:
 - .05 du/a if < 20 acres
 - .2 du/a if >/= 20 acres
 - Total units allowed: 85
 - Proposed:
 - 1 du/a in P1
 - Light Industrial in P2
 - Total units allowed: 181
 - Difference of 96 units above RGP





RPA Land Conversion to TPA

- Land Bay Q1
 - Current:
 - .05 du/a
 - Total units allowed: 114
 - Proposed:
 - 1 du/a
 - Total units allowed: 356
 - Difference of 242 units above RGP





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Moving Forward

- September: Work through Recommendations of Stakeholders Committee, Staff & Planning Commission
 - Revise Plans
 - Begin Fiscal Impact and Travel Demand Modeling
- October-November: Review and Finalize Revised Plans and Hold Public Hearing
- December: Recommend Plans to Board



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Loudoun 2040 Countywide Transportation Plan (CTP)

Planning Commission

August 30, 2018 | Loudoun County Comprehensive Plan



Agenda

- 1. Transportation Policy Overview
- 2. Network Development and Key Changes from 2010 CTP
- 3. Loudoun 2040 Countywide Transportation Plan (2040 CTP)
 - A. Network Evaluation (Modeling Envision Loudoun Scenario)
- 4. DTCI Network Recommendations
- 5. Additional Recommendations
- 6. Transition Policy Area Network Considerations



Transportation Policy Overview

Development of plan policy considered:

- Greater clarity and streamlined policies
- Maintenance of supportable policy goals
- Greater flexibility where appropriate
- Improved integration with the General Plan



Transportation Policy Overview

Considerations During Drafting:

- Public Input & Stakeholder Committee
- Incorporation of 2003 Bicycle & Pedestrian Mobility Master Plan
- Incorporation of 2010 Countywide Transportation Plan
- Incorporation of draft Silver Line CPAM
- More context-sensitive transportation planning



Transportation Roadway Network Development

Reviewed Existing and Planned County Road Network

- Existing vehicular, bicycle, and pedestrian facilities
- 2040 demand generated by Silver Line CPAM and RGP land uses
- Impacts from draft land use plan
- Opportunities for optimizing use of existing roads

Evaluated where road network changes might be needed

Considered the impacts of demand on the regional transportation system



Benefits of Identified Road Corridors

Reconsideration of Functional Classification

- Based on FHWA and VDOT Standards
- Will provide improved opportunities for regional funding
- Will facilitate improved information for BOS prioritization efforts

Preservation of Historic Corridors

Provides specific designation for design and ultimate planned condition of corridor



Benefits of Identified Road Corridors

Addition of Neighborhood Collectors

- Highly-trafficked local streets
- Opportunities for improved multimodal provisions within existing section
- Help facilitate improved quality of life and community connectivity
- Provides VDOT with County direction for low-cost improvements



US Route 50 Alternate

- North of Route 50
- Direct route between Route 28 and Loudoun County Parkway
- Potentially Limited Access Coordinated with MWAA

Route 606 Interchanges

- Identifies additional preliminary interchange locations on Route 606 (subject to future study)
- Allows County to ensure right-of-way is available
- Identifies opportunities for parallel collector roads



Lower Sycolin Road Network

• Enhanced network to support industrial development

Upper Broad Run Road Network

- Identification of additional roadway corridors to preserve network
- Consideration of more rural character to preserve desired aesthetic

Silver Line CPAM Network

 Incorporated into this plan as endorsed by Planning Commission with amendments approved by the BOS



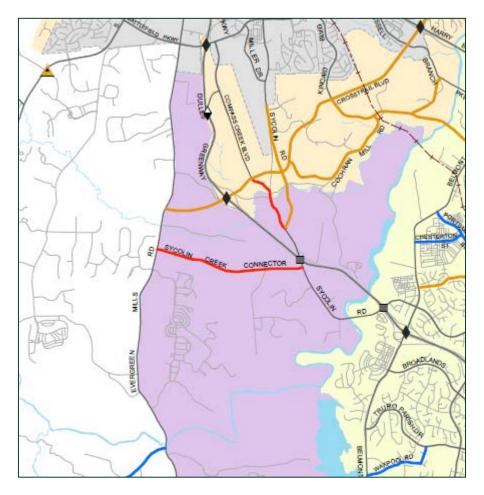
Lower Sycolin Road Network Map

— Currently planned

Existing roadway new to CTP

Unbuilt roadway new to CTP

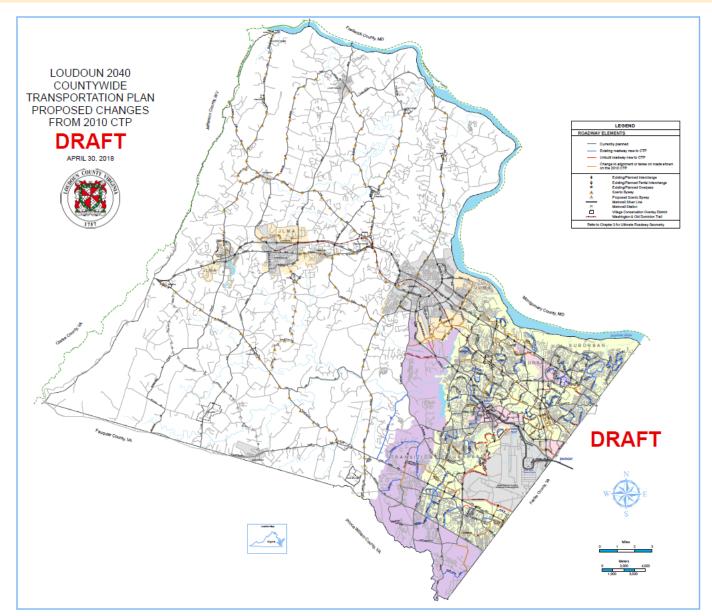
Change to alignment or lanes on roads shown on the 2010 CTP





Network Changes

- Added 18 New Unbuilt Roadways
 (Red Color on Changes from 2010 CTP Map)
- Added 79 Existing Built Roadways
 (Blue Color on Changes from 2010 CTP Map)





Transportation Demand Modeling



Transportation Demand Modeling – Envision Loudoun Scenario Results

Urban & Suburban Policy Area Capacity Constraints

- Route 7 Belmont Ridge Road to the Fairfax County Line
 - Capacity remains available on parallel routes such as the Dulles Greenway, Gloucester Parkway, Riverside Parkway, and Russell Branch Parkway.
- Connections around the future Metrorail Stations
 - Including: Loudoun County Parkway, Metro Center Drive, Barrister Street, Route 606, and Moran Road.
- The capacity constraints present on Route 28 and the intersecting roadways such as Waxpool Road, Gloucester Parkway, and Route 7 suggest that travel demand may be avoiding the Dulles Greenway.



Transportation Demand Modeling – Envision Loudoun Scenario Results

Rural Policy Area Capacity Constraints

- Route 9 west of Hillsboro, east of Route 287
- Route 287 north of Purcellville
- **US Route 15** Montresor Road to the Maryland Line
- Route 7 Round Hill to Purcellville
- US Route 50 near Middleburg and Aldie
- **US Route 15** south of US Route 50 into Prince William County

Transition Policy Area Capacity Constraints

- US Route 50 between US Route 15 and Northstar Boulevard
- Braddock Road between US Route 15 and Northstar Boulevard
- **Gum Spring Road** at the Prince William County line



Envision Loudoun Model & Currently Adopted Model

Consistent constraints between both models

- Route 7 and Route 28
- Arcola Boulevard / Gum Spring Road Corridor
- US 50 / US Route 15 Intersection
- Rural Corridors

Improvement with Envision Loudoun Model

 Route 606 constraints are improved by additional lane capacity between Loudoun County Parkway and Dulles Greenway (6 lanes in current CTP to 8 lanes in Envision Loudoun)



Transportation Demand Modeling – CTP Conclusions

- The proposed CTP network consists of improvements to an already robust transportation plan that largely addresses the travel demands of the Envision Loudoun land use plan
- Limited access and capacity improvements on Route 7, US Route 50, Route 606 enable corridors to operate with few constraints
 - Parallel routes to these major arterials have capacity as well
- Growth and travel demand in neighboring jurisdictions create constraints along rural arterials



Transportation Demand Modeling – CTP Conclusions

Rural Primary Roadway Recommendations

- No changes are currently proposed to add additional capacity to rural primary corridors in the draft Loudoun 2040 CTP.
- The draft Loudoun 2040 CTP reflects the currently adopted CTP for US Route 15 between Leesburg and Montresor Road, incorporating the four-lane widening approved by the Board in March 2018.
- Rural primary routes will be further evaluated based Board of Supervisors directed Safety and Operational Studies (SOS). This includes the ongoing study for US Route 15 north of Leesburg and the recently authorized (July 3, 2018) studies for Route 9 and US Route 15 south of Leesburg.
- Future Safety and Operational Studies are anticipated to be funded in future fiscal years for US Route 50, Route 287, and Route 7 west of Round Hill.



Questions?







DTCI Network Recommendations



CTP Map Recommendations

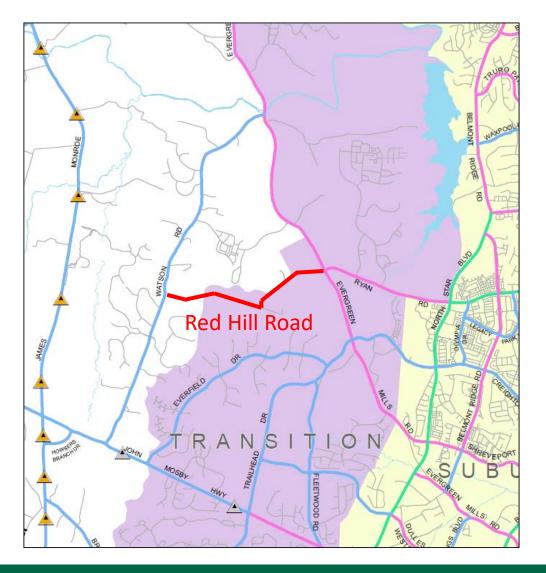
| DRAFT Staff Recommendations | | | | | | | | | |
|---|--|----------|----------------------------------|--|--|--|--|--|--|
| Loudoun 2040 Countywide Transportation Plan | | | | | | | | | |
| # | DTCI Recommendation | Location | Basis | | | | | | |
| 21 | Retain note on Draft Loudoun 2040 Countywide Transportation Map that the design of any future improvements to Edwards Ferry Road will consider scenic and historic resources along the roadway | Maps | Staff | | | | | | |
| 22 | Update Road Names on Draft Loudoun 2040 Countywide Transportation Maps to be consistent with street naming ordinance, current street names, and naming conventions where possible | Maps | Staff | | | | | | |
| 23 | Refine Draft Loudoun 2040 Countywide Transportation Maps to include information provided in MWAA Staff Technical Committee Comments. | Maps | STAC- MWAA | | | | | | |
| 24 | Add general note to Draft Loudoun 2040 Countywide Transportation Maps: As this is a conceptual document and a planning tool, some street names do not conform to the county street naming ordinance, actual street names must conform to the county street naming ordinance. | Maps | Staff | | | | | | |
| 25 | Update street type abbreviations per USPS abbreviations | Maps | Staff | | | | | | |
| 26 | Include the existing four Washington and Dulles International Airport runways and the location of the future fifth runway on Loudoun County 2040 Countywide Transportation Plan maps | Maps | Stakeholders, STAC, and Staff | | | | | | |
| 27 | Add Red Hill Road to the CTP roadway map as a minor collector to provide an additional eastwest connection between Watson Road and Evergreen Mills Road. | Maps | Staff | | | | | | |
| 28 | Change Loudoun 2040 Roadway Plan Map - Roadway Locational Note E to be as follows: The alignment of Pacific Boulevard from Old Ox Road to Innovation Avenue, including a westbound ramp to access the Dulles Greenway, will be determined as part of a future study in coordination with MWAA. | Maps | Staff | | | | | | |



CTP Map Recommendations

Red Hill Road

- Two-lane minor collector
- Additional east-west connection between Watson Road and Evergreen Mills Road





Additional DTCI Recommendations



Additional DTCI Recommendations

- Further clarify the functional classification description for certain Principal Arterials including Route 15 North of Leesburg
- Revise location of Pacific Blvd South of Route 606 (Old Ox Road) through MWAA property
- Update Modeling Network Maps per public comment received after Stakeholders Committee
- Further review of proposed Dulles West Boulevard between Northstar Boulevard and Fleetwood Road



Transition Policy Area – Network Considerations



Transition Policy Area - Network Considerations

Traffic Growth Along TPA Roadways
Currently Planned TPA Network

- Development
- Purpose
- Connectivity

Lower Foley and Lower Sycolin Subareas

- Current Plans
- Potential Changes
- Challenges



Daily Traffic Growth Rates Since 2001

| Route # | Name | Segment | 2001 | 2006 | 2011 | 2016 | 2017 | Total Growth 2001-2017 | |
|----------|---------------------|-------------------------------------|-------|-------|-------|-------|-------|------------------------|-------------|
| Noute II | Nume | - Segment | 2001 | 2000 | 2011 | 2010 | 2017 | Total Glowe | 112001 2017 |
| 50 | US Route 50 | US Route 15 to Pinebrook Road | 15000 | 18000 | 15000 | 16000 | 18000 | +3000 | +20% |
| | | | | | | | | | |
| 621 | Evergreen Mill Road | Masons Lane to Belmont Ridge Road | 5900 | 9300 | 11000 | 12000 | 12000 | +6100 | +103% |
| | | Town of Leesburg to Belmont Ridge | | | | | | | |
| 643/625 | Sycolin Road | Road | 1000 | 3400 | 8700 | 10000 | 13000 | +12000 | +1200% |
| | | | | | | | | | |
| 653 | Cochran Mill Road | Sycolin Road to W&OD Trail | 180 | 250 | 490 | 490 | 1900 | +1720 | +955% |
| | | W&OD Trail to Crosstrail Boulevard | | | | | | | |
| 653 | Cochran Mill Road | (near Route 7) | 1600 | 2400 | 1600 | 1700 | 2900 | +1300 | +81% |
| | | | | | | | | | |
| 653 | Shreve Mill Road | Evergreen Mill Road to Sycolin Road | 140 | 260 | 940 | 1300 | 2600 | +2460 | +1757% |
| | | Braddock Road to Prince William | | | | | | | |
| 659 | Gum Spring Road | County | 4000 | 10000 | 11000 | 15000 | 18000 | +14000 | +350% |
| | | US Route 15 to Northstar Boulevard | | | | | | | |
| 705/620 | Braddock Road | (Goshen Road) | 340 | 1300 | 1300 | 3100 | 3400 | +3060 | +900% |
| | | Evergreen Mills Road to Northstar | | | | | | | |
| 772 | Ryan Road | Boulevard | 280 | 3600 | 3600 | 7500 | 15000 | +14720 | +5257% |



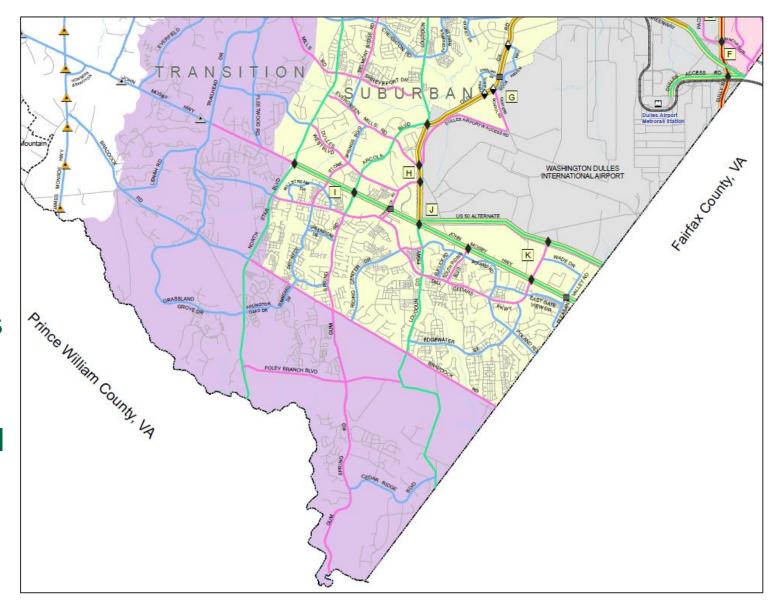
Current & Future Plans – Southeast Loudoun

2010 & 2040 CTP call for:

U.S. Route 50 to be a limited access freeway

Braddock Road to be four-lanes with a median and controlled access

Collector Roads to provide local access along the northern and southern sides of US Route 50





Construction and Funding – Southeast Loudoun

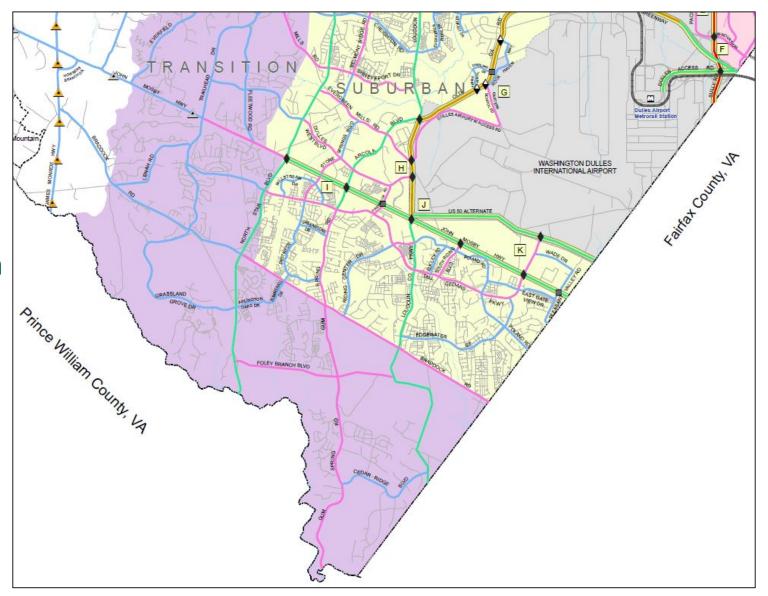
Current Improvements in Southeast Loudoun include:

Tall Cedars Parkway (complete 2017) four lane connection between Pinebrook Road and Gum Spring Road

Braddock Road improvements at Gum Spring Road (2018)

Northstar Boulevard four lane connection between Tall Cedars Parkway and Shreveport Drive (2022) and Braddock Road (2026)

No Timeframe for buildout of the remainder of the current planned network



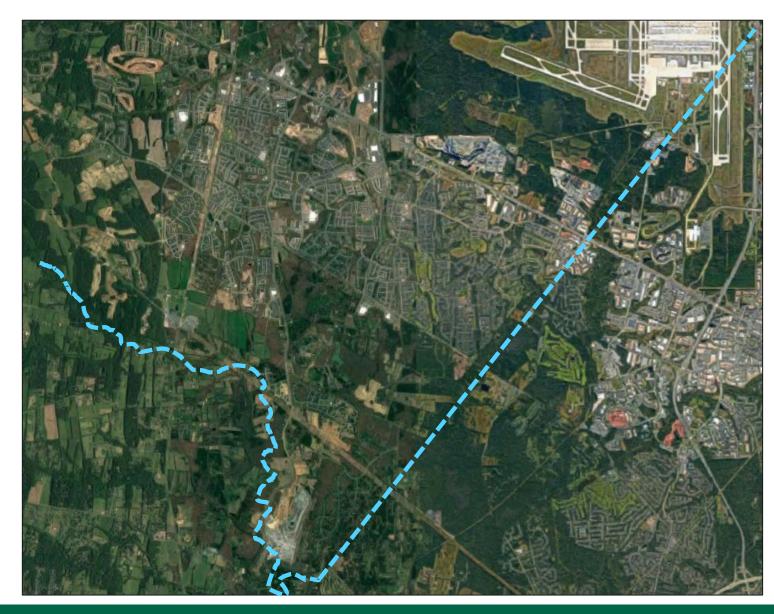


Increasing Densities – Southeast Loudoun

The **2010 CTP** supports the land uses envisioned by the adopted Revised General Plan.

Additional Density would require evaluation of additional capacity needs.

Where additional density is located impacts capital needs impacts.



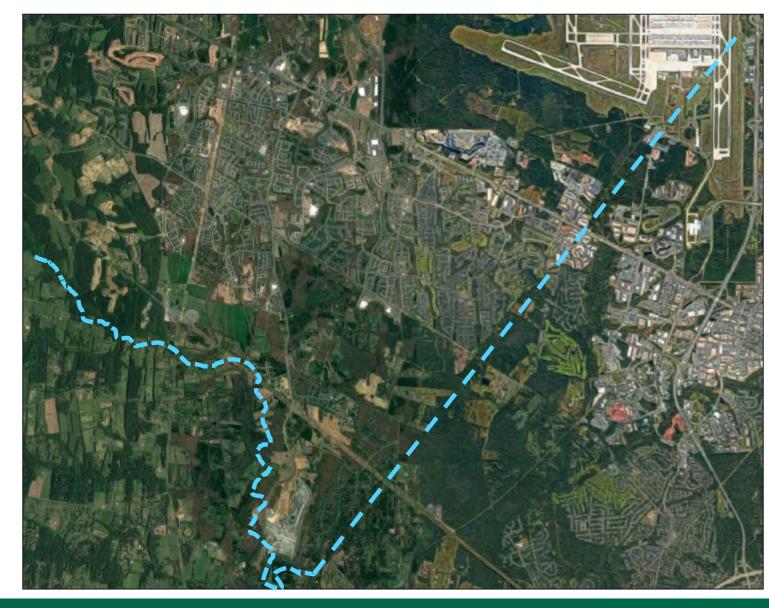


Increasing Densities – Why "Where" Matters

Additional density requires additional infrastructure no matter where it is located.

Built up areas can make better use of existing capacity on roads and with transit.

Undeveloped areas are often less costly to develop but require greater amounts of infrastructure.



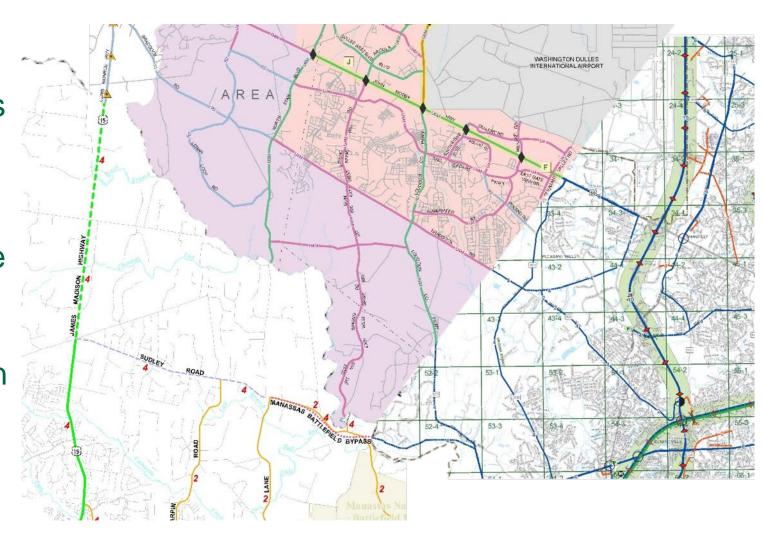


Future Challenges – Southeast Loudoun

Cost – several roadway corridors and interchanges not yet constructed

Existing Constraints – Dulles Airport, Cub Run, Bull Run, stone quarries, and neighborhoods

Neighboring Jurisdictions – have not prioritized transportation improvements for roads into Loudoun County.





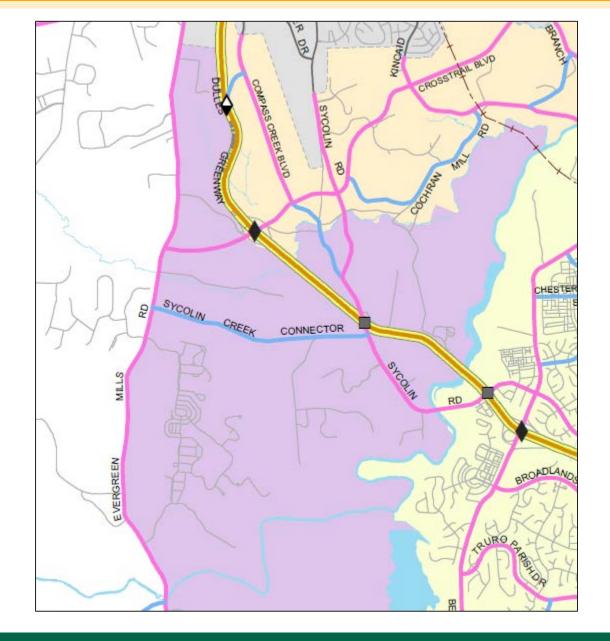
Current & Future Plans - Lower Sycolin

2010 & 2040 CTP call for:

Evergreen Mills Road to be four lanes with a median and controlled access

Sycolin Road to be four lanes with a median and controlled access

Cochran Mill Road to be four lanes (2010 CTP) and two lanes (2040 CTP) with local access





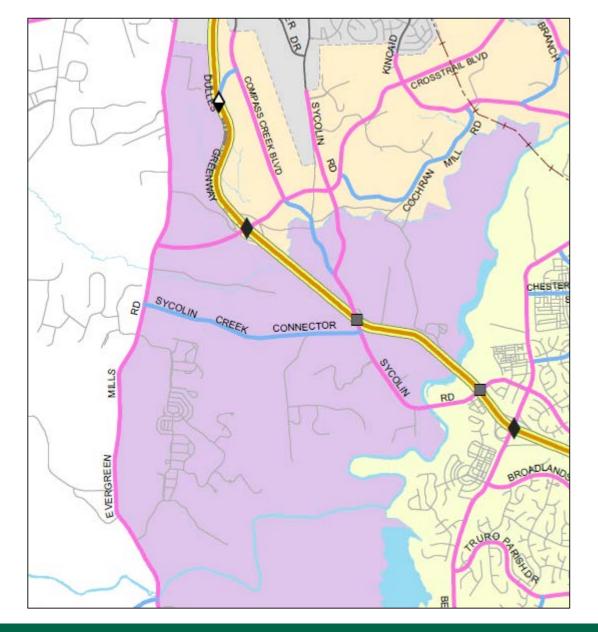
Construction and Funding – Lower Sycolin

Current Improvements in the Lower Sycolin area include:

Compass Creek Parkway four lanes under construction to serve new shopping center (2018)

Crosstrail Boulevard four lanes under construction between Kincaid Blvd and Sycolin Road (2018/19) & between Russell Branch Parkway and Kincaid Blvd (2021/22)

No Timeframe for buildout of the remainder of the current planned network





Increasing Densities – Lower Sycolin

The **2010 CTP** supports the land uses envisioned by the adopted Revised General Plan.

Additional Density would require evaluation of additional capacity needs.

Industrial Development may result in equitable cumulative trip generation rates when compared to currently planned transition residential densities.



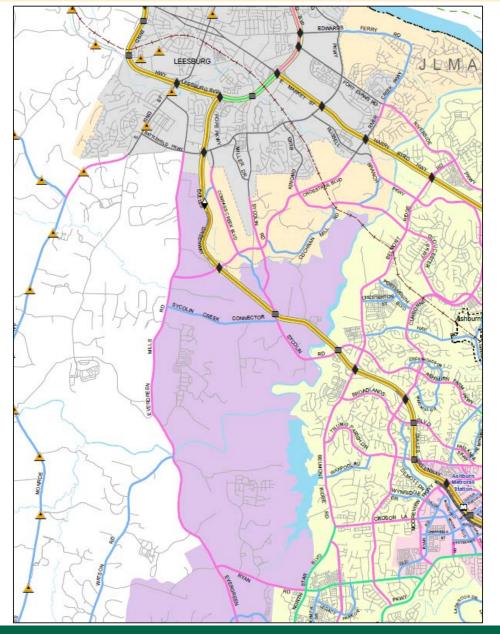


Future Challenges – Lower Sycolin

Existing Constraints – Goose and Sycolin Creeks, Beaverdam Reservoir, steep slopes, quarries, and neighborhoods

Location – new development in Lower Sycolin will likely impact Rural Policy Area roadways

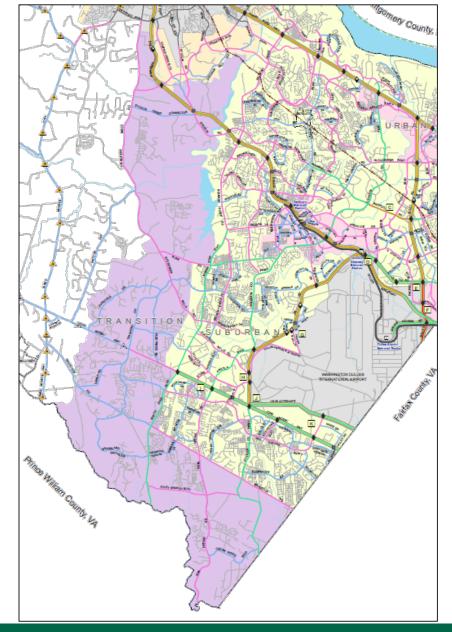
Limited Corridors – Lower Sycolin is not currently planned to include a comprehensive grid network of roadways





Transition Policy Area – Points for Consideration

- Transition Area Roads are anticipated to see continued growth in traffic over the coming years through their connections to the suburban area and neighboring jurisdictions.
- Any proposals for development in the TPA will need to consider natural features and existing development both in terms of location and potential roadway corridors and improvements.
- The location of new development has significant impact on the per unit costs of infrastructure, including but not limited to transportation costs.





Questions?





